AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 5, 11, 16-18, and 20 as follows. Please add new Claims 36-37.

1. (**Currently Amended**) A pumping apparatus with a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, wherein the cams are cam segments and wherein the shaft is without a ~~continuous~~ core region.

2. (Canceled)

3. (Previously Presented) The pumping apparatus according to Claim 1, additionally comprising a counterpressure plate for applying the hose and for supporting the pressure exerted on the hose by the lamellae.

4. (Previously Presented) The pumping apparatus according to Claim 3, wherein the counterpressure plate is sprung within a housing of the pumping apparatus by one or more springs.

5. (**Currently amended**) A one piece shaft for a pumping apparatus with a peristaltic drive device, the shaft comprising a single homogenous piece of material, wherein the shaft is designed without a ~~continuous~~ core region, the shaft having integral cam segments offset with respect to one another and contiguous to one another.

6. (Previously Presented) The shaft according to Claim 5, wherein an odd or even number of cam segments is provided.

7. (Previously Presented) The shaft according to Claim 5, wherein the cam segments are offset with respect to one another in such a way that only one cam segment is at a maximum distance from an imaginary center line of the shaft.

8. (Previously Presented) The shaft according to Claim 7, wherein a uniform offset (α) of the cam segments is provided.

9. (Previously Presented) The shaft according to Claim 5, wherein the shaft comprises a plastic.

10. (Canceled)

11. (**Currently Amended**) A method for pumping a medium through a hose having at least one compressible section, the method comprising:

providing a pumping apparatus with a peristaltic drive device containing a one-piece shaft comprising a single homogenous piece of material, the shaft being without a ~~continuous~~ core region, having integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, the cam segments being offset with respect to one another in such away that only one cam segment is at a maximum distance from an imaginary center line of the shaft;

progressively compressing the hose on one side by the lamellae without completely pinching the hose; and

generating a fluid flow in the hose.

12. (Previously Presented) The method according to claim 11, further comprising pinching the hose so that a volume can be enclosed in a leak-tight manner at the first and at the last cam segment, and that the remaining lamellae serve for the reduction in volume.

13. (Previously Presented) The method according to claim 12, wherein the first and the last lamella are switched as a valve and the remaining lamellae are set in such a way that, in any position, at least a narrow gap remains between the walls of the hose acted upon by the lamellae.

14. (Previously Presented) The method according to claim 11, further comprising pumping in two directions, a first direction and an opposite second direction.

15. (Previously Presented) The method according to claim 11, further comprising generating a sinusoidal pinching movement of the lamellae for generating the fluid flow through the hose when the cam segments have a uniform offset.

16. (**Currently Amended**) An infusion pump comprising:

a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the

lamellae in both forward and backward directions, wherein the cams are cam segments, and wherein the shaft is without a ~~continuous~~ core region.

17. (**Currently Amended**) A transfusion pump comprising:

a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, wherein the cams are cam segments, and wherein the shaft is without a ~~continuous~~ core region.

18. (**Currently Amended**) A hose pump for medical use comprising:

a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, wherein the cams are cam segments, and wherein the shaft is without a ~~continuous~~ core region.

19. (Previously presented) The pumping apparatus of Claim 1, wherein the ratio between the lamella height (c) and lamella stroke (h) is from about 4:1 to 1:1.

20. (**Currently amended**) The shaft according to Claim 5, wherein the cam segments define a continuous core orifice in the region of a center line.

21. (Previously presented) A pumping apparatus with a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, wherein the cams are cam segments and wherein the shaft has a continuous core region having a diameter less than 3 mm.

22. (Previously presented) The pumping apparatus according to Claim 21, additionally comprising a counterpressure plate for applying the hose and for supporting the pressure exerted on the hose by the lamellae.

23. (Previously presented) The pumping apparatus according to Claim 22, wherein the counterpressure plate is sprung within a housing of the pumping apparatus by one or more springs.

24. (Previously presented) The pumping apparatus according to Claim 21, wherein the arrangement of the integral cams defines an outside diameter and a stroke and wherein the ratio between the outside diameter and the stroke is less than 4:1.

25. (Previously presented) A one piece shaft for a pumping apparatus with a peristaltic drive device, the shaft comprising a single homogenous piece of material, wherein the shaft is designed with a continuous core region having a diameter less than 3 mm, the shaft having integral cam segments offset with respect to one another and contiguous to one another.

26. (Previously presented) The shaft according to Claim 25, wherein an odd or even number of cam segments is provided.

27. (Previously presented) The shaft according to Claim 25, wherein the cam segments are offset with respect to one another in such a way that only one cam segment is at a maximum distance from an imaginary center line of the shaft.

28. (Previously presented) The shaft according to Claim 27, wherein a uniform offset (α) of the cam segments is provided.

29. (Previously presented) The shaft according to Claim 25, wherein the shaft comprises a plastic.

30. (Previously presented) A method for pumping a medium through a hose having at least one compressible section, the method comprising:

providing a pumping apparatus with a peristaltic drive device containing a one-piece shaft comprising a single homogenous piece of material, the shaft having a continuous core region with a diameter less than 3 mm, having integral cams arranged so as to be offset with respect to one another and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, the cam segments being offset with respect to one another in such a way that only one cam segment is at a maximum distance from an imaginary center line of the shaft;

progressively compressing the hose on one side by the lamellae without completely pinching the hose; and

generating a fluid flow in the hose.

31. (Previously presented) The method according to claim 30, further comprising pinching the hose so that a volume can be enclosed in a leak-tight manner at the first and at the last cam segment, and that the remaining lamellae serve for the reduction in volume.

32. (Previously presented) The method according to claim 31, wherein the first and the last lamella are switched as a valve and the remaining lamellae are set in such a way that, in any position, at least a narrow gap remains between the walls of the hose acted upon by the lamellae.

33. (Previously presented) The method according to claim 30, further comprising pumping in two directions, a first direction and an opposite second direction.

34. (Previously presented) The method according to claim 30, further comprising generating a sinusoidal pinching movement of the lamellae for generating the fluid flow through the hose when the cam segments have a uniform offset.

35. (Previously presented) A pumping apparatus with a peristaltic drive device for pumping a medium through a hose having at least one compressible portion, containing a one-piece shaft comprising a single homogenous piece of material with integral cams arranged so as to be offset with respect to one another thereby defining an outside diameter and a stroke, and with attached lamellae, the shaft being configured to guide movement of the lamellae in both forward and backward directions, wherein the cams are cam segments, and wherein the ratio between the outside diameter and the stroke is less than 4:1.

36. (**New**) The pumping apparatus of Claim 35, wherein the ratio between the outside diameter and the stroke is less than 3:1.

37. (**New**) The pumping apparatus of Claim 35, wherein the ratio between the outside diameter and the stroke is less than 2:1.